

LEVEL CROSSINGS OF STOCHASTIC PROCESSES WITH STATIONARY
BOUNDED VARIATIONS AND CONTINUOUS DECREASING
COMPONENTS

Masakiyo Miyazawa
Volker Schmidt

Abstract: Formulas for level crossing probabilities, ladder height distributions and related characteristics of a general class of processes with stationary bounded variations and continuous decreasing components are derived under certain mild conditions. Results for a risk process with a constant premium rate and with a claim process generated by a stationary marked point process are generalized to the case where the premium rate itself can be a stochastic process and the claim arrival process can have both jumps and continuous components. The case of infinitely many jumps in finite intervals is not excluded. The main tool for investigating this more general class of stochastic models is an exchange formula for Palm probabilities of stationary random measures. Our results can be used to derive a formula for the ascending ladder height distribution of the time-stationary workload process in single-server queues.

2000 AMS Mathematics Subject Classification: Primary: -; Secondary: -;

Key words and phrases: -

THE FULL TEXT IS AVAILABLE [HERE](#)